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## Book Reviews

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*Cholera and the Ecology of Vibrio cholerae*. Edited by B. S. Drasar and B. D. Forrest. Pp. 355. London: Chapman & Hall, 1996. £45.00. ISBN 0 412 61220 8.

Another book on cholera? With two major works [1, 2] on the subject within the last 5 years, a third might at first seem superfluous, but our knowledge of the disease, after stagnating for nearly a century, has been turned upside-down in recent years, and continues to develop apace. This book brings the story up to date.

We have come a long way since the director of what used to be the Cholera Research Laboratory in Dhaka (now the International Centre for Diarrhoeal Disease Research, Bangladesh) first heard of the outbreaks of cholera in hospital wards and prisons in Maputo and Dar es Salaam in 1983. His first reaction, 'Waterborne, of course', was wrong, as the institutions all had chlorinated water supplies, but it was typical of the conventional wisdom at the time.

We have learned since then that other faecal–oral transmission vehicles, such as food, can be just as important in cholera epidemiology; but this lesson, forgotten since the days of Snow and Koch and now re-learned, has been eclipsed by the more radical realization that *V. cholerae* is not a human pathogen which occasionally enters bodies of water, but rather an aquatic bacterium which infects humans.

The first clue came in 1978 when five clusters of cholera cases on the Southwestern coast of Louisiana in the USA were shown to be related to the consumption of locally-caught crabs. A number of other cases, also associated with the consumption of seafood from the Gulf of Mexico, were to follow over the next 10 years. Meanwhile, wild cholera vibrios were found in surface waters in non-endemic regions from Kent (UK) to Australia, and laboratory experiments showed that they could survive for long periods of time, and even multiply, in slightly saline and alkaline aquatic environments.

These discoveries inspired a search for microhabitats where such conditions might prevail. Conventional culture methods to detect the vibrios were supplemented by the fluorescent-monoclonal antibody staining procedure (FA), which detected vibrios *in vitro* and *in vivo*, surviving for many months in a form which appears to be viable (though it has not yet been cultured), attached to the chitinous surfaces of aquatic fauna, and in the mucilaginous sheath of certain algae. The idea that these could be the real reservoir for cholera is supported by the way seafood is frequently

implicated in epidemics of cholera, by the annual bloom of algae in the waters of Bangladesh at the start of each cholera season, and by the vibrio's unusual ability to produce both chitinase and mucinase.

Our understanding of the pathogenesis, immunology, taxonomy and genetic makeup of *V. cholerae* has also advanced at an increasing rate in recent decades, though in some areas (such as its removal by wastewater treatment processes) we have learned little since Koch's day. The pathogen, for its part, has not stood still. From 1961, the Classical biotype was succeeded by the El Tor variant which has been responsible for the seventh pandemic. In 1991, it successfully colonized South America, a region where cholera had been absent since the last century. In the last 5 years a new strain, *V. cholerae* O139, has succeeded the old ones in India and Bangladesh, and may have brought us to the brink of the eighth pandemic.

This is the first book to tell that whole story in detail. Two historical chapters, both by G. C. Cook, on the history of the disease and of its treatment, are followed by two on immunology, pathogenesis and vaccine development, one of which is by authors from the Centre for Vaccine Development in Baltimore. There is surprisingly little overlap between the chapter on the role of aquatic flora and fauna, and the one on zoological microhabitats; one of the highlights of the latter is an account of *V. cholerae* surviving for 96 h within encysted amoebae. There is so much important information in all these, that by comparison the chapter on the geography of cholera seems weak and speculative. There is a thoughtful piece on the fate of cholera in sewage treatment, and the senior editor gives the story an inspired additional twist in the tail in his magisterial final chapter.

I was surprised that there was no mention of the remarkable discovery in South Africa, 20 years ago, that *V. cholerae* could sometimes multiply in human sweat, but this is a minor shortcoming. The book is well produced, as indeed one would expect for the price; though I was amused to see nucleotide transcribed as 'nuclear tied'; such are the perils of audio typing!

Specialists will find the book useful to bring them up to date. Non-specialists will find much to interest them; even an inkling of the thrill of research on this fascinating infection. It is clear that we still have much to learn about how this pathogen successfully renews itself to colonize the world in successive pandemics. If anyone believes that there are no major frontiers left in environmental microbiology, they should read this book.

## References

1. Barua D, Greenough WB, eds. *Cholera*. New York: Plenum Publishing, 1992.
2. Wachsmuth IK, Blake PA, Olsvik O, eds. *Vibrio cholerae* and cholera. Washington: American Society for Microbiology, 1994.

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*AIDS and Malignancies*. Edited by Basil C. Colematis and Vincent T. DeVita. Pp. 338. Chichester: John Wiley & Sons, 1996. £60.00. ISBN 0 471 96714 9

This publication is a multi-author, multi-editor volume which gives an update on HIV-associated malignancies – commonly Kaposi's sarcoma and lymphoma. Now that AIDS patients are surviving longer owing to the successful prevention and treatment of other opportunistic infections, malignancies as a cause of death are likely to increase. Thus a volume on this subject is timely and this one is comprehensive. Up-to-date reviews are presented covering basic research, and clinical application, with an emphasis on recent developments. Each chapter is written by recognized experts in the field, and the book is, on the whole, clearly written, informative and well-referenced. But this book covers much more than the title 'AIDS and malignancies' would suggest. Introductory chapters cover the subjects of retroviruses, HIV1, HIV2, and basic carcinogenesis related to the immune system. Then, in addition to one chapter each on lymphoma, Kaposi's sarcoma, and other AIDS related malignancies, there are also chapters on AIDS and disorders of the kidney, respiratory system, and skin; AIDS and haemophilia and opportunistic infections; patient care and vaccine strategies.

Since the book has a clinical bias, I imagine that it is primarily designed with the academic clinician in mind, but will also be of interest to non-clinical scientists and the growing band of medical consultants who participate in patient care. My only concern is how long it will stay up to date and useful in this very fast moving field.

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*Legionellae Control in Health Care Facilities: A Guide for Minimizing Risk*. Matthew R. Freije. Pp. 131. Indianapolis, USA: HC Information Resources, 1996. \$79. ISBN 0 9649926 4 7.

This short guide contains 102 pages of text and a further 26 pages of appendices. It focuses on controlling legionellae in health care facilities and clinical and microbiological aspects are not covered in detail. Information is used from all over the world but, unfortunately, the book is still biased to the North American market. Despite this it does bring together a lot of helpful information in a compact and conveniently presented form. It is easy to read and find one's way about with an extensive contents section and good index.

It includes chapters covering: a brief review of relevant facts about legionnaires disease and the genus *Legionella*; how to establish an appropriate action plan; preventative measures; planning and carrying out environmental sampling; disinfection and the response to an outbreak. The advice on sampling is balanced and the thorny issue of the significance of the number of legionellae detected is discussed. Practical points are clearly described mostly, but I had to chuckle when reading the section on collecting swabs from taps in which it glibly says 'remove aerator if any', which is often easier said than done. There is a section on selecting a testing laboratory which contains some interesting points. It correctly suggests that a pretreatment is required but only mentions acid pretreatment although this generally gives lower recoveries than heat pretreatment. There is no mention of the value of laboratories being accredited or participating in an external quality assurance scheme.

There is a useful comparison of some of the disinfection methods applicable to hot water systems excepting that one of the most promising, stabilized chlorine dioxide, does not appear to have been applied in the US since it is not mentioned. I was intrigued to read that UV does not work above 65 °C. Advice on how to document the control measures is included throughout and the appendices include examples of an information handout, and some logs as well as lists of useful contacts. There are some divergences from UK practice, in relation to hot water temperatures for example, which mean that it could not be used by itself for guidance in the UK. None the less, for those with about £50 to spare it is a worthy adjunct to the existing codes of practice and guidance available in the UK.

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*Current Management Issues in HIV*. (Bailliere's Clinical Infectious Diseases.) Edited by E. G. L. Wilkins. Pp. 158. London: Bailliere Tindall (W. B. Saunders & Co.), 1996. £30.00. ISBN 0 7020 2095 8.

This volume of Bailliere's Clinical Infectious Diseases contains a selection of review articles on topics of current interest in the management of HIV. Most readers will find it useful for reference in the library, rather than wishing to obtain it for their own bookshelves.

The book does not present a clear theme: the chapters stand as independent articles and vary in the approach adopted and the quality of writing. The chapters on the interaction between herpes virus infections and HIV disease and on combination antiretroviral therapy both contain interesting background information and attempt to summarize the increasing number of studies which have been published in this field. However both leave uncertainty as to how the information should now be applied in clinical practice: perhaps the authors could have described how the data have influenced their own approach to the management of patients, while awaiting the outcome of further studies?

The chapter on *Mycobacterium avium* complex infections provides clearer guidelines. From a practical standpoint, the chapters on drug-resistant oropharyngeal candidiasis and on the management and chemoprophylaxis of occupational exposure to HIV in health care workers perhaps present the most useful pragmatic advice. In addition there are chapters on cytomegalovirus retinitis and on the use of immune modulators in HIV disease, and a straightforward account of coccidian parasites in patients with AIDS.

The choice of topics addressed in this book draws attention, once again, to the emphasis on research and development of interventions for HIV infected individuals in the wealthier parts of the world. The chapter on pregnancy in HIV-infected women has a more international perspective, appropriately, since the majority of women affected are in developing countries. However, the cost associated with interventions which are being considered in pregnancy, as well as for the management issues addressed in the other chapters of the book, will be a major stumbling block for international implementation. This, together with progress on the development of interventions appropriate to the developing country setting, might be an interesting topic for a future edition in this series!

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*HIV Infection: A Clinical Approach*, 2nd Edition. Edited by Mary M. Fanning. Pp. 360. Philadelphia: W. B. Saunders & Co, 1996. £21.00. ISBN 0 7216 2792 7.

This manual was compiled by a Canadian group experienced in caring for patients with HIV infection at a teaching hospital, with the familiar problem of a rapid turnover of medical staff. Their objective was to provide clear guidelines for the management of HIV and its complications for

rotating staff, and the result is a comprehensive and thorough account highly appropriate to their specific setting. The book will be of value to students and to medical and nursing staff new to the care of HIV positive patients. Guidelines are given regarding the approach to patients with HIV and to testing for HIV, primary care and evaluation of patients with HIV, issues specific to women and children with HIV, and specific to HIV infection in association with drug abuse. This is followed by a useful section on system and problem-orientated evaluation, as well as sections on psychiatric care and palliative care. In addition there are valuable appendices, on adverse reactions to drugs and desensitization, as well as drug-drug interactions and drug-food interactions. The manual is presented in a pocket-sized format and so can be kept at hand for rapid reference.

The book places considerable emphasis on the need for a compassionate and non-judgmental approach to the care of patients with HIV infection and is perhaps a little dogmatic as to how this should be achieved. The sections on HIV testing and management of specific conditions are clear and helpful. The section on antiviral therapy still leaves one uncertain as to how to choose therapy for specific patients, but this field is changing so rapidly that perhaps clear guidelines cannot be expected.

The principal limitation of the book is that it presents, very much, a North American perspective, both in its cultural approach to HIV disease, and in the emphasis of the clinical questions addressed. One might even say Canadian, since conditions such as tuberculosis and histoplasmosis are dealt with rather cursorily, although they are of considerable significance in parts of the United States. However, the book does provide a useful framework and reference manual for those learning to manage HIV disease in a resource-rich setting.

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